News from..... **The President's Conference on Occupational Safety**

Secretary of Labor James P. Mitchell, Chairman

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Address by Secretary of Labor James P. Mitchell
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We meet today on the threshold of what a modern philosopher has called "the third great revolution of mankind."

Symbolized by the Russian sputniks and the American Explorer and Vanguard, this era has grown during the last fifteen years out of an extraordinary surge of scientific intelligence and technological ingenuity. It represents a triumph of the human mind. That triumph, however, has many consequences, social and moral, as well as scientific.

One consequence is to crash-land us in an age whose only constant is change -- rapid change. By comparison the pace of civilization has heretofore been leisurely.

It took man half a million years to exchange the hunter's club for the farmer's plow, another 25,000 years to invent the power loom. That was a century and a half ago and we have not yet adjusted to all the consequences of the industrial revolution foretold by that invention. The long experience of the race has taught us many things but it has not provided shock-absorbers to ease our jet-propelled flight into the Age of Space.

This Age means different things to different men. To safety men it holds a truly revolutionary meaning. It has translated "Safety First" from a slogan to a grim necessity.

Under the playing fields of Chicago University on a cold December day in 1942, a group of scientists demonstrated that if atomic fission could not be achieved safely, it could not be achieved at all. Their demonstration ushered in what we might call pre-planned safety research.

As nuclear energy was developed under Government auspices, safety against the new hazard of radiation had to be built in "First." The record shows that more men were killed falling off ladders than by radiation.

Today as we watch pictures of our missile tests in Florida, we note the elaborate protective clothing on men who fuel the rockets. Over the Air Force's shoulder the Nation recently watched a young Airman from the Bronx test a seven-day simulated trip to the Moon. It saw the elaborate precautions for his safety built into the tiny space capsule by the doctors and scientists who watched over him. Daily reports showed the anxious care with which they checked his every reaction. This was pre-planned safety research. This was "Safety First."

How revolutionary a development this is, is evident when we consider the past. When early in the 20th Century machines grew bigger and more dangerous the public conscience was aroused. But its energy was directed not toward accident prevention, but toward sharing the cost of work injuries after they occurred. It was the actual enactment of workmen's compensation laws which provided the first great incentive for the development of the safety movement in this country.

In the years that followed, we authored the slogan "Safety First;" we began to design safety into machines, equipment, and industrial processes before they became "operational." We developed methods of investigating accidents to determine why they happened, and when we found the causes, we made them available to others so they could avoid similar accidents.

The application of this information to find and remove potential hazards before they produce injuries became the essence of accident prevention. Applied at the design stage, it constitutes pre-planning for safety.

In much of our modern technology, however, the traditional field investigation is not a feasible method of identifying hazards. When we explore those elements of nature which men once worshipped because they feared them, we cannot afford the first accident.

We must move back into the laboratories and create experimentally the conditions we expect to meet in practice. Here we bring into consideration all our scientific knowledge, biological, chemical, physical, and mechanical, and add a few hunches and a prayer. If we do our job well, we can predict and minimize the hazards before specializing "in the wholly impossible." Thus we have converted our slogan to reality.

It is an appropriate moment therefore for me to welcome so many of you to the Tenth Anniversary President's Conference on Occupational Safety. I want especially to welcome those from the mining and transportation industries and from industrial medicine who are officially participating in our program for the first time.

Two years ago we invited the farming community and religious and women's groups to join us. As we face the new problems and dimensions of the Space Age, this broadened participation is both gratifying and desirable.

The wisdom of our Conference planners is demonstrated by the forward-looking program they have devised, although they began work on it nearly a year ago. I should like here to pay tribute to the safety leaders from virtually all the groups attending this Conference who worked with generosity and devotion to develop the program you have before you. These men have conferred with me often and I have been glad to accept their recommendations wholeheartedly and with admiration.

So today their efforts, and those of more than a hundred other men and women both on the program and behind the scenes, come to fruition. They have chosen in this our tenth anniversary conference to look forward instead of backward. They have built the program around the theme: "Safety Conserves Manpower ... Manpower Builds the Future." They recognized that there have been other explosions besides rockets and H-bombs.

There has been an explosion in population. Not only has the birthrate soared since 1940, but medical science has preserved life far longer than ever before. By 1965 we shall have a population of over 193 million in the United States. We shall have a labor force of nearly 80 million -- 10 million more than in 1955 -- and it will look a lot different than it does today.

This population surge followed a deficit in births caused by the depression of the 1930's. By 1965 that deficit will result in a shortage of men in the prime working ages of 25 to 44. Four and a half million of our increased labor force will be young men and women, 14-24. These future workers are in the Nation's schools today. The rest of the 10 million will be men 45 and over and women beyond 35. An increasing proportion of our future labor force therefore will consist of younger and older workers and women.

Part-time work has been growing in this country for a variety of reasons and by 1965 about a third of this increased labor force, mostly women and young people, will be able and willing to work only part-time. These projections are based on a continuance of the cold, rather than on a hot, war. But they reflect conditions we have met before in this country, notably during World War II.

Most of you recall the special arrangements made by our industries at that time to utilize and safeguard these less experienced workers. More and more frequently in the years ahead you will pull this experience from your mental files and adapt it to your current needs. For as safety men you are aware that industrial change -- whether a shifting labor force, new production methods or increasing output -- has in the past meant increased work injuries.

So the first hurdle you face in conserving future manpower is a changing labor force.

The second hurdle is a changing technology. Impressed as we are with the accomplishments of space scientists, like St. Paul, we still "see through a glass, darkly." Our philosopher says that "while we do not know where we go from here, we can be sure we shall go there fast."

A few trends are discernible. Although much of tomorrow's work is as yet unforeseen, we do know that much of it will be done in such industries as aircraft and air transport, atomic energy, heavy construction, electronics, office machines and electric power. We also know that the demands of a soaring population, of science and national defense both in space and on the ground will require higher skills than ever before. Higher skills among professional and technical personnel, among proprietors and managers, among craftsmen, clerical, sales and service workers.

The space satellites have made our national need for more education and training front page news. We cannot train only scientists. Preservation of the values we cherish in a free society, of the rich heritage of the past, requires humanists tomorrow as well as scientists. And those who will check the rocket's wiring system in 1965 will not be scientists but skilled craftsmen. Already the number of research and development craftsmen and technicians used in private industry considerably exceeds the number of research scientists.

The safety significance of this necessary improvement in the quality of our skills is profound. Better educated and trained workers will mean a larger national investment in each -- an investment we cannot afford to lose through preventable accidents. All of these workers are precious -- skills may be irreplaceable.

To explore and understand the hazards of our changing technology against which we shall be called upon to protect our skilled labor force is a basic purpose of this Conference.

Here a note of caution may be in order. We should not become so fascinated by the hazards of the future that we forget those of the past. Men fell off ladders in building atomic reactors and may unfortunately do so when they erect space ships. Such falls indicate that while we know how to prevent them, we have not universally applied that knowledge.

So we will face familiar hazards in the Space Age but we shall also face new ones -- in our laboratories, for example, and not only among today's scientists but among those in training for the future. Laboratories are the seed-bed of modern technology where the unknown is explored and truth discovered. The unknown can hold hazards as well as hope.

Radiation is a controllable hazard but as nuclear energy comes into wider commercial use, it will challenge more of us to understand and practice the techniques of control. The same may be said of new chemicals which come upon the market every day.

On the plus side, safety-wise, is automation where machines do the heavy and dangerous work. But we still cannot assess the effect of monotony on the men at the dials or the hazards of automation to the maintenance crews.

And then there is man himself -- perhaps the greatest unknown. What motivates him to work safely? What can man himself do to adjust to our accelerated tempos and what must better engineering do to offset human limitation? Modern technology has added risks which cannot be completely offset by improving human behavior. Acceleration poses both a physical and a psychological problem.

If this Conference cannot answer all these questions, it can at least face and try to understand them. The first step in controlling disease is isolating the germ which causes it.

Safety engineers are not defenseless in approaching their task. Behind them is not only a generation of safety experience but a body of sound safety principles. We have made tremendous progress in this country, but we still have a long way to go even in achieving control over the common hazards of today.

In 1957, 14,200 occupational deaths and 1,930,000 injuries reflected a level which has prevailed in recent years in the face of rising employment and hence the exposure of more workers to possible injuries. Such a record is evidence of progress.

But what of the future? Unless we improve on the past we can expect about a quarter of a million more disabling injuries in 1965 than were suffered in 1957. Like Alice In Wonderland, we must run to stay in the same place. To win the race against accidents we must run faster and faster.

These cold figures on injury volume strike home when translated in terms of what our children can expect. Based on our 1956 experience, one out of every 100 boys and girls 14-19 years of age who are now entering the labor force will die as the result of a work injury. Six will suffer a permanent impairment and 70 will experience one or more disabling work injuries before reaching retirement. Only 23 of the 100 will complete their working lives without a disabling work injury.

Despite all of our progress, we can today promise only a fifth of our young people an accident-free working life. And this is assuming we can maintain our present levels of accomplishment.

Maintaining such levels will not be easy with a changing labor force in a changing technology, a technology characterized by both speed and speed of change.

These then are the factors with which the Space Age challenges this Conference. I am sure you will agree that it is no small challenge and that we meet not a moment too soon to take its measure. The technical complexities of production in this era strain our capacity for comprehension and may require the development of equally complex safeguards for the men who engage in them.

The emphasis on improving the skills of the work force applies particularly to those who have direct responsibility for safety. No longer are good will, zeal and a curbstone knowledge of industrial processes enough to produce a good safety man. Controlling the hazards of even the familiar wood jointer are more complex today at 20,000 RPM than at 6 to 8,000 yesterday. The same may be said of starting and maintaining familiar machines in an automated line.

But accident prevention is no longer limited to controlling obvious hazards on familiar machines. Already we are faced with problems of controlling invisible hazards, like radiation, which are detectable only through highly technical and precise procedures.

All these factors -- complex machines, higher speeds and new technologies -- make the training of today's safety engineers much more technical and precise. Our expanding technology calls for ever higher skills and greater professionalization among safety engineers as well as among biologists, psychologists and industrial hygienists. Tomorrow holds little opportunity for those who fail constantly to improve their skills and broaden their comprehension.

To meet this challenge, your program committee has prepared a kind of three-day orientation to the technical hazards of the next decade. It has assembled an impressive cross-section of authorities to give this orientation. You will hear prominent industrial and labor planners, radiation engineers, industrial physicians, psychiatrists and rocket specialists. Your committee has also included State administrators, trade association executives, union leaders.

These are the people who know the channels and can carry the message to the only place where it can prevent accidents -- the workplaces of the Nation.

We must use these three days to marshal our resources -- the safety experience of the past, the principles which have stood the test of time, and the new concept of pre-planned safety research.

And we have another resource at this moment -- the anxious attention of the American people. An eminent news commentator has said, it is not often that events capture the attention of the American people, but when they do, the hour for action has struck. The dawn of the Space Age is such an hour.

Let us resolve here to use all these resources that the citizens of tomorrow may fully realize the importance of safety both to themselves as individuals and to the Nation's well being.